

Application No. 10/535,626
Amendment dated February 19, 2008
Reply to Office Action of October 18, 2007

4

Docket No.: 80454(302770)

REMARKS

Claims 2-10 are pending in this application, of which claims 2 and 8-10 have been amended. Claim 1 has been canceled. No new claims have been added.

Claims 1-10 stand rejected under 35 U.S.C. §103(a) as unpatentable over Street (previously applied) in view of U.S. Patent 4,934,773 to Becker (hereafter "Becker").

Applicant respectfully traverses this rejection.

As noted in Applicant's response of July 24, 2007, Street discloses an apparatus and method for the display of autostereoscopic images, in which two or more perspective views are generated by a single transmissive display screen. A structured light source behind the screen directs light through different sets of display elements to correspondingly different viewing zones. In certain embodiments, the structured source comprises a patterned mask 21 which prevents light from passing through a particular set of elements and reaching the wrong zone. The pattern of the mask 21 may be programmed. Observer coordinate data permits the correct viewing zone to be co-located with each of the observer's corresponding eyes. A tapered lenticular structure can provide the means for adapting to changes in the observer's distance from the display.

The Examiner has urged, among other things, that "row LCD 42" and "row LCD 44" arranged one above the other in Street correspond to the horizontal rows of LEDs claimed in the instant application,

Applicant respectfully disagrees. Column 9, lines 27-40 disclose:

Each element of a lenticular screen 40, which has its elements arranged horizontally, images light originating from any particular row of mask 35 to a corresponding row of elements of an LCD 41. The element's neighbor images light from this particular row to a row of LCDs 41 which is spaced by two row pitches from the corresponding row. In other words, rows 42 of mask 35, which present the same arrangement of blocking and transmitting regions

DC 238241.1

Application No. 10/535,626
Amendment dated February 19, 2008
Reply to Office Action of October 18, 2007

5

Docket No.: 80454(302770)

to lenticular screen 37, all provide light to alternate rows of the LCD and in such a manner that these are seen by the observer's left eye 43. Conversely, rows 44, 40, provide light for the other interleaved lines of the LCD, and direct this to the observer's right eye 45.

Thus, first it should be noted that Street discloses a light source 1, but does not disclose that it consists of LEDs, as in the present invention. As is well known in the art, the LCD 41 is transmissive and thereby does not produce light, while the LEDs of the present invention are emissive and function as a light source.

Second, it should be noted that items 42 and 44 in Street represent horizontal rows in a mask 35, and not LCDs. FIG. 4 clearly shows a single LCD 41 through which light passes after passing through rows 42, 44 in mask 35. The light also passes through screen 37 and lenticular screen 40 before passing through LCD 41.

The Examiner has cited Becker for teaching that the use of LED as a light source is well known, and that it would have been obvious to alternately use the LED and LCD as light sources because of their equivalence in providing lights for display.

Applicant respectfully disagrees.

Becker discloses a miniature full-page video display which mounts at least one row of light-emitting elements such as LEDs, a magnifying lens, and a vibrating mirror in a light-tight box having an opening through which the mirror may be viewed. The LEDs are selectively illuminated at points in the travel of the vibrating mirror, resulting in rows of pixels being projected at selected points on the mirror to provide a two-dimensional image. Two or more rows of light-emitting diodes, each of a different color, may be adjacently mounted and selectively illuminated in a manner such that corresponding LEDs are projected on the same spot on the mirror, resulting in a color image. The light box may be a hand-held device or it may be mounted to glasses, a headband or a similar device, and the virtual image appearing at the mirror may be viewed directly through an opening in the box or through a suitable optical system.

DC 238241.1

Application No. 10/535,626
Amendment dated February 19, 2008
Reply to Office Action of October 18, 2007

6

Docket No.: 80454(302770)

It would not be obvious to combine the LED video display of Becker with the auto stereoscopic display of Street to teach the present invention for at least the following reasons:

1. Street does not utilize the LCDs to produce light. Instead, light source 1 transmits light through rows 42, 44 in mask 35 and then through LCD 41 before it reaches the eye. Thus, the two horizontal rows of LEDs in the present invention more closely correspond to the light source 1 of Street, which is not arranged in rows.
2. The video display system of Becker is not arranged to produce three-dimensional images, and does not send separate images from upper and lower LEDs constituting a light source portion to right and left eyes, respectively, as recited in claim 2 of the instant application. Thus, the two-dimensional display system of Becker is not combinable with the three-dimensional display ("auto stereoscopic display") of Street to teach the three-dimensional display using upper and lower LED arrays as a light source portion to present different images to right and left eyes of an observer, as recited in claim 2 of the instant application.

Accordingly, claim 1 has been canceled and claim 2 has been amended to contain the limitations of claim 1, from which it depends, while claims 8-10 have been amended to appropriately adjust their dependencies.

Thus, the 35 U.S.C. §103(a) rejection should be withdrawn.

The Examiner has requested English translations of the Japanese references cited in the documents submitted in the foreign priority documents, namely, JP 10-253925, JP 8-201726, and JP 8-68962.

Regrettably, these English translations are not in Applicant's possession and were unavailable for inclusion with this response.

DC 238241.1

Application No. 10/535,626
Amendment dated February 19, 2008
Reply to Office Action of October 18, 2007

7

Docket No.: 80454(302770)

In view of the aforementioned amendments and accompanying remarks, claims 2-10, as amended, are in condition for allowance, which action, at an early date, is requested.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 04-1105.

Dated: February 19, 2008

Respectfully submitted,

By William L. Brooks

William L. Brooks

Registration No.: 34,129

EDWARDS ANGELL PALMER & DODGE
LLP

P.O. Box 55874

Boston, Massachusetts 02205

(202) 478-7370

Attorneys/Agents For Applicant

Enclosure: Petition for Extension of Time

DC 238241.1